Claims

[c1] 1.A method of detecting objects with a night vision system having a light source and a camera, the method comprising:
activating said light source in the form of a sequence of light pulses wherein each light pulse is increasing in intensity for a predetermined number of pulses to form a pulse train; and
activating said camera in the form of a corresponding sequence of detection windows wherein each of said windows corresponds to one of said light pulses for receiving reflected light resulting from said corresponding light pulse and a time delay between each corresponding light pulse and detection window is increasing throughout said pulse train.

[c2] 2.A method according to claim 1 further comprising summing all reflected light signals in said pulse train to form a composite image of detected objects within a field of view of said night vision system.

[c3] 3.A method according to claim 1 further comprising generating a video image from said reflected light signals in a plurality of pulse trains and displaying said video image on an operator display.

[c4] 4.A method according to claim 1 wherein each light pulse and each detection window has a constant duration.

[c5] 5.A method according to claim 4 wherein the duration of each detection window is approximately twice as long as the duration of each light pulse.

[c6] 6.A method according to claim 1 wherein the time delay between each subsequent corresponding light pulse and detection window increases by approximately 50ns.

[c7] 7.A method according to claim 6 wherein said pulse train is approximately 40 corresponding light pulses and detection windows.

[c8] 8.A method according to claim 1 wherein a gain of each detection window is increasing throughout said pulse train.

[c9] 9.A method according to claim 1 wherein said light source is a NIR diode laser and said camera is a high speed NIR-sensitive camera.

[c10] 10.A method of detecting objects with a night vision system having a light source and a camera, the method comprising:
activating said light source in the form of a sequence of constant intensity light pulses to form a pulse train; and
activating said camera in the form of a corresponding sequence of detection windows wherein each of said windows corresponds to one of said light pulses for receiving reflected light resulting from said corresponding light pulse and wherein each detection window has an increasing gain throughout said pulse train and a time delay between each corresponding light pulse and detection window is increasing throughout said pulse train.

[c11] 11.A method according to claim 10 further comprising summing all reflected light signals in said pulse train to form a composite image of detected objects within said night vision system field of view.

[c12] 12.A method according to claim 10 further comprising generating a video image from said reflected light signals in a plurality of pulse trains and displaying said video image on an operator display.

[c13] 13.A method according to claim 10 wherein each light pulse and each detection window has a constant duration.

[c14] 14.A method according to claim 13 wherein the duration of each detection window is approximately twice as long as the duration of each light pulse.

[c15] 15.A method according to claim 10 wherein the time delay between each subsequent corresponding light pulse and detection window increases by approximately 50ns.

[c16] 16.A method according to claim 10 wherein said light source is a NIR diode laser and said camera is a high-speed NIR-sensitive camera.

[c17] 17.A method of detecting objects with a night vision system having a light source and a camera, the method comprising:

activating said light source in the form of a plurality of constant intensity light pulses to form a pulse train; and

activating said camera in the form of a plurality of detection windows throughout said pulse train for receiving reflected light resulting from said corresponding light pulses and wherein a time delay between each subsequent detection window is increasing throughout said pulse train, said light pulses and detection windows being configured such that objects nearer the night vision system are imaged by fewer light pulses than objects further away from said night vision system.

[c18] 18.A method according to claim 17 wherein a duration of each detection window is longer than a duration of each light pulse.

[c19] 19.A method according to claim 17 further comprising summing all reflected light signals in said pulse train to form a composite image of detected objects within said night vision system field of view.